

## WHAT IS CLAIMED IS:

1. A motion vector searching device which includes a motion vector searching portion (101-110) supplied with an input picture signal representative of a succession of pictures for dividing each of said pictures of said input picture signal into blocks and for searching for a motion vector as a searched motion vector for each of the blocks of each of said pictures in a search area of said input picture signal for each of the blocks of each of said pictures, said motion vector searching device comprising:

a learning portion (113, 313) for learning tendencies of the searched motion vectors for previous pictures previous to a current picture of the pictures of said input picture signal to produce tendency information representative of said tendencies; and

a determining portion (114) for determining the search area for each of the blocks of said current picture on the basis of said tendency information to cause said motion vector searching portion to search for the motion vector as the searched motion vector for each of the blocks of said current picture in the search area for each of the blocks of said current picture.

2. A motion vector searching device as claimed in claim 1, wherein said learning portion learns the tendencies of the searched motion vectors for said previous pictures by detecting horizontal and vertical components of the searched motion vectors for said previous pictures, said learning portion producing the tendency information representative of the horizontal and the vertical components of the searched motion vectors for said previous pictures as said tendencies.

3. A motion vector searching device as claimed in claim 2, wherein said determining portion determines the search area on the

basis of the horizontal and the vertical components of the searched motion vectors for said previous pictures which components are represented by said tendency information.

4. A motion vector searching method which includes a motion vector searching step, supplied with an input picture signal representative of a succession of pictures, of dividing each of said pictures of said input picture signal into blocks and of searching for a motion vector as a searched motion vector for each of the blocks of each of said pictures in a search area of said input picture signal for each of the blocks of each of said pictures, said motion vector searching method comprising:

a learning step of learning tendencies of the searched motion vectors for previous pictures previous to a current picture of the pictures of said input picture signal to produce tendency information representative of said tendencies; and

a determining step of determining the search area for each of the blocks of said current picture on the basis of said tendency information to cause said motion vector searching step to search for the motion vector as the searched motion vector for each of the blocks of said current picture in the search area for each of the blocks of said current picture.

5. A motion vector searching method as claimed in claim 4, wherein said learning step learns the tendencies of the searched motion vectors for said previous pictures by detecting horizontal and vertical components of the searched motion vectors for said previous pictures, said learning step producing the tendency information representative of the horizontal and the vertical components of the searched motion vectors for said previous pictures as said tendencies.

6. A motion vector searching method as claimed in claim 5, wherein said determining step determines the search area on the basis of the horizontal and the vertical components of the searched motion vectors for said previous pictures which components are represented by said tendency information.

7. A recording medium recording a program for executing:  
a motion vector searching operation, supplied with an input picture signal representative of a succession of pictures, of dividing each of said pictures of said input picture signal into blocks and of searching for a motion vector as a searched motion vector for each of the blocks of each of said pictures in a search area of said input picture signal for each of the blocks of each of said pictures;

a learning operation of learning tendencies of the searched motion vectors for previous pictures previous to a current picture of the pictures of said input picture signal to produce tendency information representative of said tendencies; and

a determining operation of determining the search area for each of the blocks of said current picture on the basis of said tendency information to cause said motion vector searching operation to search for the motion vector as the searched motion vector for each of the blocks of said current picture in the search area for each of the blocks of said current picture.